Copper

Financial performance

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>US$5,916</td>
<td>US$6,661</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>672</td>
<td>469</td>
</tr>
<tr>
<td>Underlying earnings</td>
<td>821</td>
<td>1,059</td>
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<tr>
<td>Capital expenditure</td>
<td>2,813</td>
<td>4,455</td>
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<tr>
<td>Net operating assets</td>
<td>12,070</td>
<td>12,321</td>
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</tbody>
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Strategy and strategic priorities

The Copper product group’s 4+2 strategy aims to create substantial and sustainable value for shareholders. It is focused on building a core portfolio of four operating assets (Kennecott Utah Copper, Oyu Tolgoi, Escondida and Grasberg) and two world-class greenfield projects (La Granja and Resolution Copper) that are or are expected to be large, long-life, low-cost and expandable operations. The Copper group will deliver this strategy through:

- Relentlessly focusing on health, safety, environmental responsibility and community engagement, and sustainable partnerships with governments and communities.
- Improving productivity via safer, better and smarter practices and selected investments in technologies that generate long-term value.
- Driving maximum value out of the products the group mines and optimising the entire supply chain.
- Developing strong leadership, matching the group’s employees and skills to its current and future requirements, and creating a culture that establishes accountability for delivery of business objectives.

Safety

In 2013, the Copper group’s all injury frequency rate was 0.49, compared to 0.50 in 2012. The group regretfully had a fatality at La Granja, one of its managed projects, in 2013. Tragically, there were 33 fatalities at the non-managed Grasberg mine, of which 28 were related to a devastating underground accident. There was also a fatality at the SouthCob Resources non-managed infrastructure project.

Rio Tinto Copper’s safety programmes are focused on four facets:

- Eliminating fatality risks and catastrophic events, and developing sound mitigation plans.
- Helping employees at all levels understand safety risks and how to manage them. The group’s new Underground performance safety standards are believed to be the most thorough and inclusive in the mining industry.
- Strong focus on reducing injuries.
- Safe design and engineering standards.

Greenhouse gas emissions

The Copper group’s 2013 greenhouse gas emissions were 8.34 tonnes of carbon dioxide equivalent per tonne of copper cathode produced, compared with 10.66 tonnes in 2012. The increase in efficiency resulted from an incremental improvement at Kennecott Utah Copper and from the divestment of the Palabora smelter in mid-2013.

Review of operations

The Copper portfolio is made up of large, long-life, low-cost and expandable operations that are capable of creating substantial and sustainable value for shareholders. In 2013, the group produced 631 thousand tonnes of mined copper (Rio Tinto share), making Rio Tinto the world’s sixth largest supplier. The group also produced 340 thousand tonnes of mined gold, 4,765 thousand tonnes of mined silver and 5.7 thousand tonnes of molybdenum as by-products of its copper operations.

The group’s underlying earnings of US$821 million were 22 per cent lower than 2012. Excluding the impact of the US$131 million write-down of the investment in Northern Dynasty Minerals, which owns 100 per cent of the Pebble Project in the Bristol Bay region of western Alaska, underlying earnings were ten per cent lower than 2012. This reflected lower prices, the impact of the pit wall slide at Bingham Canyon and decreased gold and molybdenum volumes at Kennecott Utah Copper from lower grades. These were partly offset by US$352 million of cash cost savings (US$514 million pre-tax) achieved across the Copper group, notably at Kennecott Utah Copper. A post-tax and non-controlling interest impairment charge of US$1,655 million has been recognised as an exclusion from underlying earnings. This includes US$1,565 million related to the impairment of previous non-cash accounting uplifts on first consolidation of certain assets of Turquoise Hill (including Oyu Tolgoi). In addition, charges of US$283 million have been excluded from underlying earnings related to the Kennecott Utah Copper slide.

In 2013, the group repositioned its portfolio and delivered significant improvements in productivity and costs, with a 15 per cent increase in mined copper despite challenges at Kennecott and Oyu Tolgoi, a 12 per cent reduction in costs at managed operations – including a 23 per cent reduction in service and support costs. It also completed US$1.8 billion of divestments.

Core operating assets

Kennecott Utah Copper (Rio Tinto: 100 per cent)

As the second largest copper producer in the US, Kennecott accounts for nearly 25 per cent of the country’s copper production. In 2013, Kennecott produced 194 thousand tonnes of refined copper, 192 thousand tonnes of refined gold, and 5.7 thousand tonnes of molybdenum. On 10 April 2013, the Bingham Canyon Mine experienced a 135 million tonne landslide on the north-east wall. As a result of Kennecott’s sophisticated monitoring systems and advanced planning, no one was injured. Recovery work will continue until the end of 2015, with production in the near and medium term constrained by the slide. In 2013, Kennecott’s underground project was paused until further value-engineering work is completed to assess the most profitable path forward for the project.

Oyu Tolgoi (Rio Tinto: 51 per cent interest in Turquoise Hill Resources)

Located in Mongolia’s South Gobi Desert, Oyu Tolgoi is the largest new copper-gold operation in the world. Commercial operations began in mid-2013 and Oyu Tolgoi’s open pit is now operating at full capacity. In 2013, Oyu Tolgoi produced 77 thousand tonnes of copper and 157 thousand tonnes of gold. Customers began collecting concentrate from the Chinese warehouse during the fourth quarter of 2013, and had withdrawn approximately 26,400 tonnes of concentrate by year end.

Escondida (Rio Tinto: 30 per cent)

Located in Chile’s Atacama Desert, Escondida is the world’s largest copper mine in terms of copper production. In 2013, Escondida produced 1.1 million tonnes of copper (100 per cent basis).

Grasberg (a joint venture that gives Rio Tinto a 40 per cent share of production above specified levels until the end of 2021 and 40 per cent of all production after 2021)

Grasberg is owned and operated by PT Freeport Indonesia, a subsidiary of US-based Freeport-McMoRan Copper & Gold Inc. Located in the province of Papua in Indonesia, it is one of the world’s largest copper mines. Rio Tinto’s share of mined copper production at Grasberg was six thousand tonnes in 2013.

Divested operations

In 2013, Rio Tinto Copper made solid progress in repositioning its portfolio to focus on a core portfolio of Tier 1 assets, with US$1.8 billion of divestments completed, including Northparkes, Palabora, Eagle, Aylina/Almas Gold and Inova. The group has also committed to reviewing the strategic fit of its minority interest in Northern Dynasty Minerals, which owns 100 per cent of the Pebble Project in Alaska.
Northparks (formerly Rio Tinto: 80 per cent)
Located in New South Wales, Australia, Northparks was a joint venture with the Sumitomo Group. Northparks produced 51 thousand tonnes of copper and 62 thousand ounces of gold up to December 2013 (100 per cent basis). In July 2013, Rio Tinto announced an agreement to sell its 80 per cent interest in Northparks to China Molybdenum Co., Ltd. (CMOC) for US$820 million. The transaction closed on 1 December 2013.

Palabora (formerly Rio Tinto: 57.7 per cent)
Palabora Mining Company is a South African company formerly listed on the Johannesburg Stock Exchange. The mine produced 26 thousand tonnes of refined copper up to July 2013 (100 per cent basis). In December 2012, Rio Tinto announced an agreement to sell its interest in Palabora for consideration totalling US$373 million. The transaction closed on 31 July 2013.

Development projects
The Copper group’s investment focus is on improving productivity and mine life at key operating assets and retaining development optionality on high quality projects, with production to come online when the market dictates. It employs a phased approach to development to maximise the value of a project to shareholders and to manage project risks and capital exposure.

Productivity and mine life extension

Kencocott
Rio Tinto is investing US$660 million to extend the life of Kencocott’s Bingham Canyon Mine from 2018 to 2030. The project, known as Cornerstone, involves pushing back the south wall of Bingham Canyon to gain access to 515 million tonnes of 0.79 per cent copper equivalent ore, with first ore expected to be accessed in 2017.

Escondida
At Escondida, production was approximately seven per cent higher in 2013, primarily as a result of higher ore grades and improved throughput rates. In addition, Escondida will construct a new dynamic leach pad to maintain current levels of oxide leaching. The project should be complete in mid-2014, when the existing heap leach is exhausted.

Grasberg
PT Freeport Indonesia continues to develop the large-scale, high-grade underground orebodies located beneath and nearby the Grasberg open pit. In aggregate, these underground orebodies are expected to ramp up over several years to approximately 240,000 tonnes of ore per day following the anticipated transition from the Grasberg open pit in 2017.

Oyu Tolgoi
On 29 July 2013, Rio Tinto announced that all funding and work on underground development of Oyu Tolgoi would be delayed. Since then, Rio Tinto has continued to engage with the Government of Mongolia with the aim of resolving a number of outstanding shareholder issues and to progress project finance. An option to restart underground development, subject to certain conditions being met, has been proposed, but further delays may occur if these conditions are not met before lender commitments on existing project finance arrangements expire. Such delays could lead to further impairments.

Greenfield projects

La Granja (Rio Tinto: 100 per cent)
The La Granja project, located in northern Peru, has the potential to be a Tier 1 asset and one of Rio Tinto’s highest-value opportunities. The project strategy is focused on delivering a risk-managed and staged entry to a world-class mining district. The mine development strategy is designed to manage social, environmental and technical challenges by starting at a small scale and preserving options to grow the project over time.

Resolution Copper (Rio Tinto: 55 per cent)
The Resolution Copper project, located in Arizona, US, is among the top ten largest undeveloped copper assets in the world, and could eventually become the largest copper producer in North America.

In November 2013, the company submitted a Mine Plan of Operations to initiate Federal permitting on the project. Approval of the plan would allow mining to occur on lands where the company currently holds mineral title. Resolution is also seeking approval in the US Congress to acquire full legal title to 671 hectares of public land held under its mineral claim and to revoke a mineral withdrawal on 307 hectares of adjacent land. In exchange, the project would give the public more than 2,400 hectares of high-quality Arizona conservation lands. While exchange legislation faces opposition from special-interest groups, it is moving through the US Congress with bi-partisan support.

Technology and innovation
The Copper group recently established a Growth and Innovation organisation responsible for developing a focused, attractive portfolio of value-producing growth and innovation opportunities. The group invests in value-creating, leading-edge technology to drive the efficiency and safety of its mining processes and reduce environmental impact, above and below ground.

Taking in real-time data, the new Excellence Centre uses the latest in modelling and simulation tools to significantly improve copper processing performance across the globe.

Rio Tinto is evaluating a range of incremental and step-change technologies to improve the safety and productivity of current mines and expansions, with a particular focus on mineral processing and block cave mining. This has included large-scale copper sulphide leach testwork on the La Granja mineralisation and a successful pilot sulphide leach facility using ore at Kencocott.

Outlook
While Rio Tinto expects volatility in the near term, long-term fundamentals for the copper industry remain positive. The continued urbanisation, industrialisation and electrification of China and other large markets such as India and South East Asia, combined with greater energy-efficiency requirements and the move toward more renewable energy sources, will continue to drive long-term copper demand. Against those demand dynamics, the supply picture will remain constrained, with continued cost escalation in some jurisdictions, falling grades, technical challenges from increasing depth at existing operations and new discoveries, water and power constraints, and continued political and social risks, especially for new projects.

Rio Tinto Copper is well positioned to benefit from these strong market dynamics. It is currently the industry’s sixth largest copper producer, with existing Tier 1 assets. In addition, the group is pursuing high-value growth opportunities, using a phased and structured approach to development investment while maintaining optionality. The group is carefully managing costs and capital exposure, and its leadership in technological innovations allows it to safely and efficiently access lower grade ores and deposits, at greater depths. This strategy will generate significant and sustainable value for shareholders and all partners, as it is expected to reposition the group from the third quartile of the copper cost curve into a low-cost, first quartile producer.